

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

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In the Matter of	)	
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Preserving the Open Internet	)	GN Docket No. 09-191
	)	
Broadband Industry Practices	)	WC Docket No. 07-52
	)	
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**COMMENTS OF PROFESSOR THOMAS B. NACHBAR**

**Introduction**

I write, as a legal academic, neither in support of nor in opposition to the regulation of broadband Internet access service, or network neutrality itself. Rather, the purpose of this comment is to point out ways in which portions of the six Internet Principles that the Commission proposes to adopt as rules in the Notice of Proposed Rulemaking (NPRM) go beyond both traditional network regulation and past Commission regulation that fostered the explosive growth of today's communications markets. Traditional network regulation has granted substantial discretion to network providers over the ways in which their networks could be used by customers and limited instead the ability of network owners to discriminate against particular customers. The nondiscrimination rule of the fifth principle, particularly when combined with the application-neutrality rule of the second principle, threatens to upend the Commission's traditional, flexible approach to regulation and unnecessarily constrain the ability of network providers to develop new communications technologies and forms of carriage while simultaneously failing to protect against the most fundamental forms of discrimination.

**Statement of Interest**

The author is Professor of Law and Class of 1963 Research Professor at the University of Virginia School of Law. He is the author of several scholarly articles on communications

regulation, constitutional law, intellectual property, and trade regulation as well as co-author of the casebook *Communications Regulation* (with Glen Robinson). I have been neither retained nor paid by any party with a financial interest in this matter.

### **The Many Meanings of “Nondiscrimination”**

The fifth of the Internet Principles, as proposed to be codified in Title 47 of the Code of Federal Regulations, reads:

#### **§ 8.13 Nondiscrimination**

Subject to reasonable network management, a provider of broadband Internet access service must treat lawful content, applications, and services in a nondiscriminatory manner.

Neither “nondiscrimination” nor “nondiscriminatory” are defined in the proposed draft rules.

There are potentially limitless ways in which any provider of a service can discriminate; network providers especially so. Broadband Internet access providers operate in two-sided markets, carrying not only their subscribers’ data but also data from online content, application, and service providers. Consequently, a network provider can simultaneously discriminate both among broadband Internet access subscribers (for instance through price or geographic discrimination) and among potential content, application, or service providers (for instance, by providing preferential carriage to some providers over others through exclusive agreements). Moreover, because different uses of the Internet place different demands on the network, simply designing the network in particular ways will effectively “discriminate” against some uses. Thus, the Internet as currently designed, discriminates against uses that are time-sensitive, such as streaming video or real-time telecommunications;<sup>1</sup> similarly, circuit-switched telephone networks effectively discriminate against applications such as email that require only intermittent carriage by requiring a dedicated (and frequently idle) circuit between two points.

The NPRM does not currently specify in any meaningful way what forms of discrimination are prohibited by § 8.13. Of course, given the limitless ways in which network providers can discriminate, and the limitless ways in which new content, applications, and services will either enable or redefine what we think of as discrimination in the future, it would

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<sup>1</sup> See Christopher Yoo, *Beyond Network Neutrality*, 19 HARV. J.L. & TECH. 1, 25-26 (2005).

be impossible to do so. More specifically, § 8.13 does not currently distinguish between two broad categories of discrimination: discrimination according to user and discrimination according to use.

### **User Discrimination and Use Discrimination**

For almost any provider of infrastructure, and certainly for any communications carrier, it is possible to discriminate against (or in favor of) either specific *users* of the network or specific *uses* of the network. Western Union, for example, is famous for having refused to carry messages for one news provider in favor of another,<sup>2</sup> an example of user discrimination. It is possible, however, to discriminate according use – in the case of the Internet, to refuse to carry certain types of content or to support particular applications, such as the discrimination that Madison River Communications was accused of when it, in the course of providing broadband Internet access service, allegedly blocked ports used for VoIP applications<sup>3</sup> or when Comcast targeted specific peer-to-peer file-sharing applications when engaging in its own form of Internet access blocking.<sup>4</sup>

### **Common Carriage as a User Neutrality Standard**

Network regulation, starting with the earliest forms of common carrier regulation, has traditionally been concerned with discrimination that operates according to user, not use; the traditional formulation of the common carriage obligation is a duty to serve all users who seek a particular service (a user neutrality standard) rather than a duty to serve particular uses (a use neutrality standard). The common carrier obligation of Title II of the Communications Act, for instance, imposes the duty to serve all, but does so without specifying what the service will be; Title II only imposes the duty with regard to whatever communications service the carrier

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<sup>2</sup> See Tim Wu, *Why Have a Telecommunications Law? Anti-Discrimination Norms in Communications*, 5 J. ON TELECOMM. & HIGH TECH. L. 15, 29 (2006) (describing an exclusive deal between the Associated Press and Western Union in the late nineteenth century).

<sup>3</sup> See *In re Madison River Communications, LLC and affiliated companies*, Consent Decree, 20 F.C.C.R. 4296, ¶ 3 (Mar. 3, 2005).

<sup>4</sup> See Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications, 23 FCC Rcd. 13,028 (2008).

chooses to provide.<sup>5</sup> The reason why regulators have traditionally favored user neutrality over use neutrality is simple: the only way to effectively prevent use discrimination is for the regulator to supplant the network owner's design judgments with its own.<sup>6</sup> Any network design choice is going to necessarily favor some uses over others. The public-switched telephone network, for instance, was optimized for voice carriage at the expense of (later coming) high-capacity data transmission. Requiring "neutrality" as to use necessarily entails judgments about what types of discrimination are objectionable and what types of uses must be protected.

The Commission's own relatively recent history of regulating expanded uses of the public communications network embodies respect for the distinction. Like the current proceeding, the *Computer Inquiries* of the 1980s similarly sought to enable new uses of the national telecommunications network, and the Commission did so by opening markets to many providers of "enhanced services," including the carriers themselves. In its effort to open up new enhanced services markets by removing them from regulated carriage, the Commission did not define what types of communications services ("basic services" in the parlance of *Computer II*) the carriers must provide or how they should be provided. Instead, the Commission relied on a user neutrality standard, putting in place limitations on carriers that forced every transaction with affiliated enhanced service providers to be disclosed and on terms equal to those offered to non-affiliated enhanced service providers. Carriers could develop whatever new forms of carriage they wanted, but they had to provide equal carriage to any other firm wishing to use their facilities in the same way.<sup>7</sup> Even in *Carterfone*, a proceeding dealing directly with discrimination against particular devices (similar to the discrimination prohibited by the third principle, proposed to be codified at § 8.9), the Commission left discretion over network design squarely in the hands of network providers, requiring device makers to alter their designs to

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<sup>5</sup> See 47 U.S.C. §201(a) (2000) ("It shall be the duty of every common carrier engaged in interstate or foreign communication by wire or radio to furnish such communication service upon reasonable request therefor ...").

<sup>6</sup> See Thomas B. Nachbar, *The Public Network*, 17 COMMLAW CONSPPECTUS 67, 128 (2008).

<sup>7</sup> See *In re Amendment of Section 64.702 of the Commission's Rules and Regulations* (Second Computer Inquiry), *Final Decision*, 77 F.C.C. 2d 450, ¶ 6, 7, 96 (Apr. 7, 1980) [hereinafter *Computer II*]. See generally Nachbar, *supra*, at 128.

comport with the provider's choice of network applications.<sup>8</sup> The *Carterfone* rule not impinge on the AT&T's choice to optimize its network for a particular use: voice telephony.

There is, of course, a direct relationship between user neutrality and use neutrality. The primary purpose behind many user neutrality rules is to ensure some form of use neutrality. The point of the *Computer Inquiries* was not to allow many users to provide a single type of enhanced service; it was to allow the development of new forms of enhanced services by making sure there would be many different suppliers of enhanced services.<sup>9</sup> So, too, with the *Carterfone* decision, which allowed the number and variety of end user devices to flourish by allowing many to enter device markets. In this way, user neutrality can be a means to effective use neutrality, but as a means to use neutrality, it requires far less onerous regulatory oversight than mandating use neutrality directly.

User neutrality rules simply require that, if a carrier offers a service, it must offer it to all on equal terms, but a use neutrality rule will necessarily require the Commission to become involved in detailed determinations about what network providers can and cannot do to optimize their networks without violating their duty of neutrality. That level of involvement is far beyond anything contemplated by the *Computer Inquires*, the *Carterfone* decision, or any other previous form of Commission regulation of telecommunications.

The type of regulation suggested by a use neutrality standard more closely resembles the Commission's previous approach to spectrum regulation – which has traditionally included specification of the services that licensees could provide – than it does the established approach to telecommunications regulation. The “command and control” model of regulation is outmoded even as applied to many forms of spectrum regulation;<sup>10</sup> it would be a mistake to incorporate it into the Commission's approach to regulating broadband Internet access.

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<sup>8</sup> See *In re Use of the Carterfone Device in Message Toll Telephone Service*, 13 F.C.C. 2d 420, 424 (1968).

<sup>9</sup> See *Computer II* at ¶¶ 109-10.

<sup>10</sup> See Report of the Spectrum Rights and Responsibilities Working Group, FCC Spectrum Policy Task Force (Nov. 12, 2002).

## The Use Neutrality Standard Embodied in the Fifth Principle

The inflexibility and intrusiveness of use neutrality that has caused regulators to avoid it in the past are doubly problematic in the case of the Internet. Ex ante regulatory specification can only work in static, predictable environments, and the Internet is anything but static and predictable. The problems arising from the NPRM's reliance on use neutrality are apparent in NPRM itself, most notably in its potential exceptions. In addition to the exemption for "reasonable network management," Section IV.G of the NPRM seeks comment on "Managed and Specialized Services," specifically comment on how such services should be treated separately from broadband Internet access service. Section IV.G is commendable for its open-minded approach to the question of how to define and regulate the exception for managed and specialized service, but at the same time, many of the questions it asks are necessarily unanswerable. There simply is no way to know today how to define a category that does not exist.<sup>11</sup>

What the category of managed and specialized services recognizes, but cannot possibly resolve, is the inability to distinguish in today's regulation among the many *not-yet-existing* applications that will run on either the IP network we currently call the Internet or some other adjacent network.<sup>12</sup> The examples of managed and specialized services provided in the NPRM, "some services provided to enterprise customers, IP-enabled 'cable television' delivery, facilities-based VoIP services, or a specialized telemedicine application,"<sup>13</sup> bear no regulatory, technological, or economic similarities (and all could just as easily be provided through broadband Internet access) except that "[t]hese services may require enhanced quality of service to work well."<sup>14</sup> That, of course, could be the case with many services that broadband Internet access seek to "discriminate" in favor of by providing enhanced quality of service guarantees

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<sup>11</sup> See, e.g., NPRM at ¶ 150 ("We begin by seeking comment on what functions such managed or specialized services might fulfill.").

<sup>12</sup> See, e.g., Comments of AT&T Inc. on the Transition from the Legacy Circuit-Switched Network to Broadband, GN Docket Nos. 09-47, 09-51, and 09-137 (Dec. 21, 2009) (arguing for a sunset on the existing Public Switched Telephone Network in favor of an all-IP telephone network).

<sup>13</sup> NPRM at ¶ 108.

<sup>14</sup> *Id.*

that would likely be prohibited if the principle proposed to be codified in § 8.13 is deemed to embody a use neutrality standard (especially when combined with the application-neutrality mandate of § 8.7). Rather, what the mix of services called out in the NPRM as likely candidates for exemption have in common is that they benefit from a similar historical accident: both cable television and facilities-based telephony happen to have been the first carried over the various purpose-built communications networks that now provide the bulk of broadband Internet access service.

Rather than freeing markets to innovate new uses for Internet broadband access, the proposed adoption of § 8.13 threatens to stifle innovation by effectively enshrining the existing IP-based, best-efforts architecture of the Internet in favor of potential innovations that would necessarily harm, as a relative matter, existing uses.<sup>15</sup> There is no reason to believe that this original design will remain superior in the future.

In many ways, the nondiscrimination principle proposed to be codified at § 8.13 is potentially even more disruptive than a regulator-chosen use neutrality rule because it fails to actually specify any particular use to be protected. Rather, § 8.13 seems to leave up to users, and makers of applications and devices (per §§ 8.7 and 8.9 respectively) the discretion to determine which uses that networks must support. Requiring network owners to support whatever uses are demanded by not only their customers but also through the design decisions of third parties is a vast expansion of the traditional common carriage obligation to provide service to all on equal terms. The *Carterfone* decision, for instance, was important for opening up markets on the *ends* of the network (for communications-related devices), but the rule itself only operated on the *ends* of the network.<sup>16</sup> Although the NPRM relies on *Carterfone* as a precedent,<sup>17</sup> the

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<sup>15</sup> See, e.g., NPRM at ¶ 149 (“[W]e are sensitive to any risk that the growth of managed or specialized services might *supplant or otherwise negatively affect the open Internet*. In this section, we seek comment on whether and, if so, how the Commission should address managed or specialized IP-based services in order to allow providers to develop new and innovative technologies and business models and to otherwise further the goals of innovation, investment, competition, and consumer choice, *while safeguarding the open Internet*.”) (emphasis added).

<sup>16</sup> NPRM at ¶ 25 (describing *Carterfone* as “requiring openness at the edge of the wireline network”).

<sup>17</sup> See *id.* at ¶ 25 & n.24.

regulations proposed in the NPRM go far beyond the *Carterfone* rule by limiting the discretion of network providers in designing and optimizing the network itself. Although the requirements are subject to the needs of “reasonable network management,” that term explicitly excludes design decisions that favor specific uses over others. See NPRM at ¶ 11 (“The nondiscrimination principle would prohibit broadband Internet access service providers from favoring or disfavoring lawful content, applications, or services accessed by their subscribers, , but would allow broadband providers to engage in reasonable network management.”)

The NPRM has the laudable goal of preserving the “open Internet,” but that goal is inherently conservative.<sup>18</sup> The NPRM seeks to preserve the Internet as a platform for innovation of content, applications, and services.<sup>19</sup> But the content, applications, and services provided over the Internet are interdependent with the design of the Internet; many future forms of content, applications, or services will require parallel innovation of the network itself.<sup>20</sup> The use neutrality rule of the NPRM will prevent network carriers from “discriminating” against existing uses in order to enable future ones, thwarting innovation not only of the network itself but on its ends. Presuming the superiority of the *existing* infrastructure is effectively a prejudiced policy determination to retard the development of some other network architecture, one that will support the applications, content, and services of tomorrow instead of those of today.

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<sup>18</sup> On the necessarily conservative nature of regulation that sets the terms of exchange, see Thomas B. Nachbar, *Monopoly, Mercantilism, and the Politics of Regulation*, 91 VA. L. REV. 1313, 1374 (2005).

<sup>19</sup> See NPRM at ¶¶ 93-94 (citing as the objectives of the first four principles to encourage innovation and investment in application and device markets and ensure competition among broadband Internet access providers, but failing to mention innovation of the network itself).

<sup>20</sup> And thus another distinction from circumstance the Commission addressed in *Carterfone*. There is little argument that the markets for devices (like the markets for content, applications, and services) shouldn’t be competitive, but the nature of networks means that by necessity, there has to be a single entity (per network) that chooses among the limitless number of different network standards. There will never be an open, competitive market for network standards in the same way that there can be competitive markets for devices, content, applications, or services for no other reason that someone must provide the network standards. User neutrality rules preserve the discretion of network providers to establish standards for the network itself, thus providing the coordination that enables broader device, content, application, and services markets on the ends of the network.



## Avoiding the Problems of Network Discrimination Through a User Neutrality Standard

The NPRM expresses a number of concerns addressed by the adoption of the principles, especially at ¶¶ 67-73. Paragraphs 67-71 concern the ability of network providers to extract rents from either subscribers or content, application, or service providers.<sup>21</sup> To the extent that the concern is that network providers will charge inefficiently high prices (the primary concern discussed in ¶¶ 67-70), it could not be prevented by the neutrality rule contained in § 8.13, since any rule that actually increases the total social value of the Internet only increases the amount of the total surplus that network providers will seek to obtain from the network's users.<sup>22</sup> Rather, the only pricing concerns that can be addressed by a neutrality standard are those related to *differential* pricing, both in the form of offering preferential service for higher rates (see ¶ 71) and the possibility of self-dealing by vertically integrated network providers (see ¶¶ 72-73). Both concerns can be addressed more efficaciously by a user neutrality standard than a use neutrality standard.

A user neutrality standard simply requires that, if a network provider is going to offer higher-quality service, it must offer it to all on equal terms. Such a requirement directly addresses the potential problems of self-dealing described in ¶¶ 72-73, much as the separation

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<sup>21</sup> The ability of network providers to extract supracompetitive rents has not historically been a requirement for nondiscriminatory access regulation, nor has the existence of competition traditionally been a reason to abstain from regulation. Nachbar, *supra* note 6, at 96–100.

<sup>22</sup> There is, interestingly, no general requirement among the principles that broadband Internet access providers serve all subscribers who apply for service, the closest analogy to the traditional common carriage obligation, and one removed by the Commission when it relocated regulation of broadband Internet access from Title II of the Communications Act to Title I. See Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks, Declaratory Ruling, 22 FCC Rcd 5901 (2007); United Power Line Council's Petition for Declaratory Ruling Regarding the Classification of Broadband over Power Line Internet Access Service as an Information Service, Memorandum Opinion and Order, 21 FCC Rcd 13281 (2006); Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853 (2005), *aff'd*, Time Warner Telecom, Inc. v. FCC, 507 F.3d 205 (3d Cir. 2007); Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002), *aff'd*, NCTA v. Brand X, 545 U.S. 967 (2005) .

requirements imposed by the *Computer Inquiries* did without restricting the network provider's ability to best manage the network.

A use neutrality requirement, on the other hand, effectively prohibits any form of preferential service, even that which would be socially beneficial. Although allowing network providers to charge for preferred carriage may disadvantage non-commercial content, application, and service providers *relative* to commercial ones,<sup>23</sup> there is no reason to believe that the *overall* amount of access (or content or applications or services) would be reduced by permitting network providers to sell preferred carriage to content, application, or service providers. More importantly, though, there is nothing particular to communications networks that makes a preference for those with the resources to pay for preferred carriage *more* potentially damaging to the production of content, applications, or services than is generally the case when the inputs to production are supplied by markets. Package carriers, the prototypical common carrier, have provided differential services for as long as there have been common carriers,<sup>24</sup> and no one has seriously suggested that they may not do so simply because providing differential services favors customers who can pay for them over customers who cannot. The United States Postal Service today offers Express Mail service at a premium price even though the availability of that premium service surely favors commercial enterprises over non-commercial ones who can only afford Priority Mail or (yet a further step down) First Class.

All markets for inputs tend to favor commercial over non-commercial production for goods and services simply because market transactions directly tie the resources necessary for producing a particular good or service to the provision of that good or service through the method of payment. The prohibition against forms of preferred carriage contained in NPRM imposes a limit on the operation of markets in the provision of goods and services that are inputs to other products, but there is no reason to think such a limit would enhance economic efficiency in this market any more than other limits the government might generally impose on input markets in order to favor non-commercial production.

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<sup>23</sup> See NPRM at ¶ 70 ("In particular, such pricing may disproportionately affect 'socially produced' content, *i.e.*, content produced collaboratively by individuals without a direct financial incentive, such as Wikipedia.").

<sup>24</sup> See, *e.g.*, *The Express Cases*, 117 U.S. 1 (1886).

Rather, it is only the limited cases of either vertically integrated or affiliated network and content, application, or service providers or an exclusive arrangement between a network and content, application, or service provider that raise the real potential for social harm.<sup>25</sup> A user neutrality standard eliminates such concerns by requiring network providers to grant “preferential” carriage to all applicants on equal terms, thereby eliminating the possibility of either self-dealing or exclusivity.

To the extent that the principles seek to prevent all self-dealing or preference through use neutrality, they fail to do so on their face, as demonstrated by the perceived need for exemptions for “managed and specialized services.” As broadband Internet access providers, both cable companies and telecommunications carriers will continue to prefer their own, separately priced content, applications, and services,<sup>26</sup> which will directly compete with those available through broadband Internet access.<sup>27</sup>

By focusing on a user neutrality standard, the Commission can undermine many of the arguments against neutrality regulation generally. Arguments in favor of allowing product differentiation,<sup>28</sup> which are some of the strongest to be leveled against a use neutrality standard, do not apply to user neutrality rules. Rather, the only argument against user neutrality is that exclusivity itself – the competitive advantage that content, application, and service providers can secure by successfully excluding their competitors from equal access to the network – is a product that network providers may wish to market. Network providers, and other businesses “affected with a public interest,” have never had the discretion to market exclusivity.<sup>29</sup>

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<sup>25</sup> See NPRM at ¶ 72 and sources cited therein.

<sup>26</sup> See NPRM at ¶ 108 (citing “‘cable television’ delivery” and “‘facilities-based VoIP services” as prototypical examples of managed or specialized services exempt from the neutrality mandate).

<sup>27</sup> Taking the example of the *Madison River* case, while Madison River was prohibited from blocking VoIP, it was not required to provide VoIP connections that matched the quality of its own, circuit-switched, voice service. In this way, Madison River was permitted to continue discriminating in favor of its circuit-switched voice service simply by reserving bandwidth and facilities for that service that could have otherwise been used to improve its customers’ VoIP connections.

<sup>28</sup> See, e.g., Yoo, *supra* note 1, at 18-57.

<sup>29</sup> See Nachbar, *supra* note 6, at 70.

Exclusivity can be used to enable competition, like any other form of product differentiation,<sup>30</sup> but competition through exclusivity neither depends on nor necessarily produces either innovation in network design or expanded network deployment. The primary harm of an overly restrictive policy on exclusivity is to reduce income for the network provider; although that income might be used to improve networks, there is no reason why it need be.<sup>31</sup> User neutrality would effectively prohibit exclusive arrangements without prohibiting the product differentiation that exclusivity and vertical integration can produce and thus presents considerably less risk of harm to innovation, network expansion, and consumers than does a policy of use neutrality.

## Conclusion

Although the NPRM calls upon traditional common carrier principles as the foundation of its nondiscrimination rules, the nondiscrimination rule contained in the NPRM is unlike any common carrier regulation previously imposed. Common carrier regulation, including the FCC's own past regulation of telecommunications networks, has traditionally required only that carriers provide their services without discriminating among users, not they support particular uses. Although use discrimination can be problematic, its elimination through use neutrality rules is potentially even more so. Conversely, user discrimination is even less defensible than most forms of use discrimination while its prohibition does not present many of the same risks as a regime of use neutrality. Instead of requiring broadband Internet access providers to provide equal carriage to all uses of their networks, the Commission should require only that any form of carriage a network provider does offer be made available to all on equal terms. A nondiscrimination rule premised on user neutrality is both a rule with a strong historical pedigree and the one most likely to allow the Internet to continue to evolve in socially beneficial ways.

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<sup>30</sup> See Yoo, *supra* note 1, at 32-33.

<sup>31</sup> There is no reason why network providers cannot avail themselves of other statutory schemes of exclusivity, such as the intellectual property system, to support their efforts at technological innovation. That is, if a network provider makes a patentable advance in network technology, it can use its patent rights to prevent other network providers from using the same technology; it is only prohibited from selectively extending that exclusivity to particular customers.